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A Legacy of Resource Monitoring on the Public Lands

Summary Report of the 2004 Legacy Program

Bureau of Land Management
National Science and Technology Center
September, 2004

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Cover Photo

John W. "Buster" Riley at a Parker 3-Step cluster site (Cluster No. 1, Transect No. 1) in the Las Cruces District on August 31, 2004. Buster established this transect cluster in May, 1952, the first Parker 3-Step cluster established in the old Deming district, BLM New Mexico Grazing District No. 3, southern New Mexico.

Preface

The BLM Legacy Program brings together current land managers and resource specialists with those retired and senior employees who worked on the public lands in the past. The underlying philosophy of the Legacy Program is: *if we don't learn from the past, we are bound to repeat our mistakes in the future.* Our primary goal is to benefit from the wisdom and broad perspectives of retirees and senior employees. The BLM has the opportunity to learn much from those on-the-ground management activities that occurred in past years. In particular, we have the opportunity to assess and determine the successes or shortcomings of various land treatments and management practices over time and to apply this knowledge to current land management activities. The focus for the 2004 Legacy Program was resource monitoring.

Steve Laster, Jim Morrison (retired), Nick Schultz, Amber Jackson, and Carrie Becker checking a permanent plot that Jim installed in 1968 on the Sand Draw Allotment, Pinedale Field Office.

Introduction

Land managers need sound information about resource conditions and ecological trends in order to order to sustain the health, biological diversity, and productivity of the public lands. Information collected from systematic monitoring allows the BLM to determine long-term trends in resource conditions and to ensure that management practices are achieving their intended objectives. In addition, long-term monitoring of plant communities is an essential prerequisite for understanding and eventually predicting responses of vegetation communities to long-term climatic changes and short-term anthropogenic or natural disturbances. Long-term monitoring provides the information necessary to objectively review and adjust management objectives and practices.

Resource monitoring by the U. S. Grazing Service began in the 1930s. A few of those sites still exist. Range trend and condition monitoring began in earnest by the BLM on permanent plots and transects in the early 1950s. Permanent monitoring sites, including transects, plots, and photo points, are an important legacy of the public lands. For this reason, the 2004 Legacy Program focused on resource monitoring activities.

Legacy Projects Selected for 2004

-Burns (Bill Phillips)

-Pinedale (Jim Morrison)

-Rawlins (Jim Morrison)

-Alturas (Kata Bulinski and Jan Miller)

-Las Cruces (Buster Riley)

-Canon City (Jake Jakubowsky) (scheduled for Fall of 2004)

-Prineville (Ed Roberts) (rescheduled for 2005)

-Burley (Kurt Kotter) (to be rescheduled)

-Winnemucca (Jim Brunner) (to be rescheduled)

Burns District Office, Oregon

Bill Phillips worked as a Range Conservationist in the Burns District from 1960 to 1980. He returned to Burns on a Legacy Program visit in May, 2004. Bill teamed up with Bill Andersen, the senior range management specialist in Burns, to revisit range condition and trend plots and riparian areas.

Pinedale Field Office, Wyoming

Jim Morrison was Area Manager in Pinedale from 1968 to 1969. Jim initiated the range condition and trend monitoring plots (3 x 3 plots) in Pinedale. In July, 2004, Jim re-visited several of the plots he had installed in the Desert Allotment in 1968.

Rawlins Field Office, Wyoming

Jim Morrison worked in Rawlins in the mid-1960s. He was responsible for implementing rangeland condition and trend monitoring in the Standard, Platte River and Sulphur Springs allotments. In July, 2004, Jim revisited several of the 3 x 3 plots he had installed in 1967 and 1968 in these three allotments.

Chris Otto, Andy Warren, and Jim Morrison reviewing the monitoring records from a 3 x 3 rangeland condition and trend plot on the Standard Allotment near Saratoga, Wyoming.

Alturas Field Office, California

Kata Bulinski (Baker City Field Office) and Jan Miller (retired) returned to the Red Rock Lakes Wild Horse Herd Management Area in northeastern California in August, 2004. Kata and Jan teamed up with Mark Lowrey, rangeland management specialist, and Marti Butow, wild horse specialist, both with the Alturas Field Office. The team visited habitat improvement projects completed in the late 1970s, a juniper control project with livestock/wildlife exclosures dating back to the 1960s, and new rangeland monitoring sites installed by Mark.

Mark Lowrey, Kata Bulinski, Marti Butow, and Jan Miller at the Red Rock Lakes Wild Horse Management Area, Alturas Field Office, northeastern California.

Las Cruces District, New Mexico

John "Buster" Riley returned to the Las Cruces District, where he worked for BLM in the early 1950s. Buster was responsible for establishing some of the earliest Parker 3-Step transect clusters in New Mexico, if not the BLM. At the end of August, 2004, Buster returned to several of the Parker clusters and re-read the transects along with Dr. Dee Galt, retired SCS range scientist, Jim McCormick, Assistant Manager for Resources in the Las Cruces District, and Joseph Navarro, rangeland management specialist from the Roswell Field Office.

Jim McCormick (ADM for Resources, Las Cruces District), Buster Riley (retiree-volunteer), Joe-Bill Nunn (permittee), and Dr. Dee Galt (retiree-volunteer) confer on Parker 3-Step transect established in 1953.

Long-term Monitoring of Resource Conditions

After three years of Legacy visits to a wide range of BLM field offices in most of the western states, we are seeing some patterns emerge. Retirees and senior employees are asking questions about the status of resource monitoring. Many of them have inquired about specific transects or plots or photo points that they initiated in the past. They want to know if these monitoring sites are still in use and what the results indicate. They are curious about how the land has changed. They have expressed concern about monitoring sites being discontinued or abandoned. Some retirees have indicated an interest in helping field offices with resource monitoring.

Increasingly, BLM is being challenged in the courts concerning resource conditions on the public lands. In some cases, nongovernmental groups and individuals are collecting their own monitoring data. As many of us learned over the years, having scientifically-credible monitoring data greatly assists BLM land managers in responding to legal challenges. Monitoring should always accompany resource management and is an essential component of adaptive management (Crossley, 1996).

The current monitoring problem is two-fold: 1) the maintenance, archival, and retrieval of records from existing permanent plots, transects, and photo points and 2) the proper selection, design, and implementation of new monitoring sites and protocols. Existing monitoring sites should be documented in the field office records, with GPS and map locations both noted, and project markers or reference posts installed and maintained. These activities are well-suited for willing retiree-volunteers. It is possible that retired BLM employees could be used as volunteers by many field offices for the field collection and database entry of monitoring data, the re-location of old monitoring sites, the installation of project markers or witness posts, or the acquisition of GPS coordinates of permanent plots and transects.

New monitoring sites should contribute data that helps to answer regional questions about land health (Bennett, 2004). Analysis of data from existing monitoring sites might also raise new management questions not anticipated at the time the sites were established. Those questions could be addressed by further analysis or synthesis of the existing data, or through the addition of different indicators and protocols at those sites. In the future, BLM must be careful about designing scientifically-sound monitoring strategies and protocols, including the choice of what indicators to monitor (Bennett, 2004).

Lessons Learned From Field Office Interviews

As part of the Legacy Program activities in 2004, 15 field offices were interviewed about their monitoring activities. The interview questions included the following:

- What types of resource monitoring, specifically those that utilize permanent sites, are conducted by the field office?

- What variables or indicators are measured?
- What is the frequency of measurement?
- When were the plots or transects established?
- How does the field office organize and schedule its monitoring workload?

Interview results were summarized as follows:

- Rangeland condition and trend plots and transects represent the longest and best-maintained monitoring data in BLM
- Many of the older condition and trend plots and transects (pre-1968) have been lost due to poor recordkeeping
- Systematic monitoring of permanent plots and transects fell off in the mid-80s in many field offices
- No permanent plots or transects have been established to monitor ecological trends in the field offices interviewed
- Only two field offices out of the 15 interviewed had formal plans or schedules for systematic monitoring
- Very few field offices have consistently used the same monitoring protocols (one exception is Las Cruces, where Parker 3-Step transects have been read consistently every 5 to 10 years since 1952). Note: it is very important to continue using the same protocols originally established for the permanent plots/transects, although additional protocols may be added to the site.
- The 3 x 3 or 5 x 5 photo plots re-taken every 5 years are very valuable for showing visible trends in ground cover, plant species, shrub canopy cover, etc.
- Permanent plots and transects represent a monetary investment and are an important legacy of the public lands
- Legacy participants commented favorably on the Montrose FO practice of employing an ecologist to do monitoring for the entire field office (all resources)

Permanent Monitoring Sites are Valuable Assets

Older plots, transects, and photo points are particularly valuable, even if they have not been re-measured or re-taken regularly. For example, the Pacific Northwest Research Station has conducted long-term (since 1910) measurements on a network of 145 permanent forest study plots in California, Oregon, Washington, Idaho, and Colorado. The resulting information has been invaluable in answering questions about forest ecology and management. The BLM field office in Las Cruces, New Mexico maintains a network of over 40 Parker 3-Step transect clusters established in the early 1950s to monitor rangeland condition and trend. Many of these sites have been re-measured at 5-year intervals, resulting in over 50 years of record.

The Newcastle Field Office in Wyoming recently determined that the value of a rangeland condition and trend plot, established in the 1960s and re-read periodically, was approximately $60,000. Thus, permanent monitoring sites are valuable assets and an important legacy of the public lands. These sites, and the records obtained from them, should be maintained in perpetuity.

A Strong Commitment to Long-term Monitoring is Needed

As we concluded in the Legacy 2002 Summary Report, BLM should make a strong commitment to long-term resource monitoring. With the pending retirement of a large percentage of BLM's work force occurring over the next few years (Durant, 2003), resulting in the anticipated rapid turnover of field office personnel, the need for a Bureau-wide data management system for resource monitoring is critical. BLM will be losing much of its institutional memory, including information about monitoring. The review of FLPMA completed by the National Wildlife Federation and Natural Resources Defense Council (2001) concluded that monitoring programs within BLM are inadequate and ineffective and that BLM should improve its credibility with regard to the issue of monitoring.

BLM needs a Bureau-wide database of metadata covering monitoring sites and designated research, study, and reference areas. Metadata about permanent plots, transects, photo points, and designated research and reference areas should be entered into a Bureau-wide database and made available Bureau-wide. Permanent plots, transects, and photo points represent an important public investment. Some of these sites were established in the 1950s and 1960s. A study should be conducted to determine whether existing databases, such as the Rangeland Improvements Project System (RIPS), could be modified for this purpose or if a new database is required.

Good documentation, recordkeeping, and data management must accompany monitoring (Franklin, 1989). Permanent sites used for monitoring, such as exclosures, transects, plots, and photo points, should be permanently marked with GPS-located aluminum project markers or steel reference posts and entered into a national database of permanent plot metadata. The national database should be archived in the BLM Library. The availability of modern technology (GPS, GIS, digital photography, and computer-based data storage media) provides the BLM the opportunity to more effectively and efficiently accomplish project documentation and records management. The BLM may never recover the valuable data that has been lost or destroyed. BLM will probably not be able to digitize all the available analog data that exists in hard copy files.

A serious effort should be made to implement data management guidelines and requirements to capture and properly archive new monitoring data. This is particularly important and necessary in today's times with the increasing emphasis by BLM management and the public on the application of good science in making BLM resource management decisions.

Long-term range condition and trend monitoring, such as that conducted by the Las Cruces field office using Parker 3-Step clusters since 1952, is to be commended and serves as a model for the rest of the BLM. However, traditional range condition and trend monitoring is not an adequate substitute for ecological monitoring conducted for the purpose of assessing regional ecosystem health or the ecological integrity of plant community types. Ecological monitoring should always have a peer-reviewed design and a scientifically-sound set of sampling protocols.

The Value of Legacy Volunteers

The Legacy Program has continually demonstrated the potential for utilizing BLM retirees as volunteers to assist field offices. Retirees bring a wealth of knowledge about the land. Field offices benefit by gaining a long-term perspective from the combination of two or more generations of professionals looking at the same landscape, thus spanning 40 or 50 years of experience. Several retirees have indicated an interest in working with field offices on special projects. They developed a love for the land during their academic and working careers. The spirit is still there. They want to stay involved with the public lands.

With the help of retirees, lost or abandoned monitoring sites might be located and re-measured. A good example is the San Simon watershed in southeastern Arizona, where retiree Mel Shilling established permanent transects and photo points in the late 1950s and early 1960s. Mel is working as a volunteer with the Safford Field Office, in collaboration with a University of Arizona graduate student, to locate and re-take these old photo points. Retirees are valuable sources of information about older land treatment projects, livestock or wildlife exclosures, or resource inventories. In some cases, retirees have continued their association with past BLM projects. For example, Bob Kindschy, Jim Yoakum, and Mat Kneisel recently returned to the Vale Project to re-read transects on the McDermitt seedings.

Many BLM field offices utilize retirees as volunteers. The potential exists to utilize retirees even more in the future.

Recommendations

Specific recommendations for the Legacy Program include:

1. Continue the national Legacy Program at the same level (5-10 projects per year) and encourage state offices and field offices to organize their own Legacy Programs.

2. Continue and perhaps formalize the relationship with the Public Lands Foundation to improve communications with retirees.

Specific recommendations for monitoring include:

1. Recognition on the part of BLM senior management that permanent, long-term monitoring sites (plots and transects) and the data derived from them are valuable public land assets.

2. Create a Bureau-wide database of metadata covering long-term monitoring sites (permanent plots and transects) and designated research, study, and reference areas.

3. Metadata on permanent plots/transects should be published and archived in a national location (e.g. the BLM library).

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Appendix A – Guiding Questions for 2004 Legacy Site Visits

The following questions are used to frame the Legacy site visits and prepare the site reports. Legacy volunteers are responsible for completing the site reports. Questions 1 through 5 should be addressed prior to the field visit if possible. Questions 6 through 8 will be addressed during the close-out of each site visit.

1. What were the original objectives of the resource monitoring?
2. What were the goals or expectations in terms of utilizing the results?
3. When was the monitoring initiated?
4. What type of monitoring was initiated (e.g. transects, photo points, plots)? How are the sites marked and documented? What was the frequency of monitoring? Has monitoring continued to the present? If not, when was the last measurement?
5. Were photo points established? If so, have they been re-taken recently?
6. What is the status of the project files and where are they maintained?
7. What are your observations and conclusions based on the 2004 site visit?
8. What do you recommend to the field manager in terms of follow-up actions?

Additional, site-specific questions may be added in collaboration with each of the field offices visited.

Appendix B – Site-specific Reports

Bill Phillips – Burns District

Jim Morrison – Pinedale Field Office

Jim Morrison – Rawlins Field Office

Kata Bulinski and Jan Miller – Alturas Field Office

Buster Riley – Las Cruces District

Legacy Visit to Burns District

Bill Phillips
May 10-14, 2004

The records I looked at were in good order. In fact, they are in the best order I have seen in the BLM.

The Photo Trend record proved to be of real value in showing change of the rangeland conditions over time.

I was real pleased to see that much of the work that I started between 1960 and 1980 had been carried through with, modified and added to.

Much of the area has shown marked improvement. Rattlesnake Creek, the Malheur River, and Stinking Water Creek have made marked improvement. The area between the Malheur River and Stinking Water Creek was severely beat out when I first saw it in 1960. It now has a good cover of grass showing high vigor.

The control of juniper was good to see. Control should have started 50 years ago. When I was there we did a lot of talking about juniper control but we were never able to work it into the program. Cut juniper looks kind of ugly and is a fire hazard for several years. However, time will solve this problem.

I was disappointed that mountain mahogany has not started new plants under the cut trees. I don't know the reason. This will need to be watched to see what happens.

The seeding west of the Warm Springs Reservoir has lost some vigor as well as some plant cover. It will need to have extra good care. If reseeding is done, I suggest using basin wildrye in the seed mix.

Phase I watershed studies pinpointed the Stinking Water Creek as the source of much of the silt going down into the Malheur River. The creek channel has much improved. However, the drainages going into the creek are still eroding with headcuts still advancing. The banks of these advancing channels cut straight up and down with no slope. Management of livestock will not solve this problem. These channels will continue to move, cut and expand until they eat up the entire flat. Phase 2 watershed should have addressed this problem. However, that program was dropped. The only way to address the problem is through the use of checks in the cutting area. I recommend a series of gabions at the upper end of each channel. These must be tied into the bank on each side, have an overflow in the middle so water does not cut the banks and have a lot of rock piled below the structure to dissipate the energy of the water. These will cost a lot of money. However, I know of no other way to stop the cutting.

LOOKS LIKE THE RESOURCE AREA IS DOING A GOOD JOB. HANG IN THERE.

BLM Legacy Program Report
Rangeland Trend Monitoring in Wyoming

Jim Morrison, retired BLM

I was invited to participate in BLM's Legacy Program in which this year's program emphasized resource monitoring. I traveled to the Rawlins and Pinedale, Wyoming BLM Field Offices where I had worked and established rangeland monitoring trend plots in 1968 and 1969, respectively. A field and office visit was conducted during the week of July 26-29, 2004. Bruce Van Haveren, Senior Scientist at the Federal Center in Lakewood, Colorado accompanied me on these field visits, as well as Field Office staff members. It was unfortunate that others who worked with me at the time with this effort could not have participated. Lloyd Eisenhauer, retired BLM, had planned to participate, but experienced a family emergency further curtailing his plans. I regret that I did not make a more concerted effort to try and locate Mark Hollis.

Background of the Rangeland Trend Monitoring Program

In the mid-1960's, the range adjudication requirements of the Taylor Grazing Act were almost complete throughout the Bureau's jurisdiction. Following this, some experimental grazing management schemes for selected grazing allotments were developed. It was also at this time that Gus Hormay's Rest-Rotation Grazing System became popular with the Bureau and many offices were establishing this system as well as grazing systems in conjunction with Allotment Management Plans. This was then followed by the concept that some attempt of monitoring was needed to determine if these grazing systems and other management measures were meeting objectives.

Prior to this time the Bureau had established some monitoring at various locations, using a variety of methods. Some that come to mind were Condition and Trend Studies, that were established at permanent points throughout the Grazing Districts (as they were known then), using a transect method such as the Forest Service Parker 3-Step or similar technique. Some offices also used utilization cages and clipping-weighing studies. In the late 1960's the Bureau decided to establish a more standardized method of monitoring rangeland trend, and the Federal Service Center at Denver was given the task to initiate a method and provide the necessary training for field offices to implement the method. The Rangeland Trend method was then established, including manual instructions.

This methodology continued to be the most commonly used method of monitoring grazing management schemes, with some modifications, of most allotment management plans throughout the Bureau well into the 1980's and in some cases 1990's. Some offices still depend on some of this data and continue to monitor, at least partially, using the same basic techniques of this monitoring system. In time this method began to receive some criticism, particularly in regards to the methodology for obtaining quantitative data and became less used and depended upon in favor of other methods or of no monitoring at all in many cases due to changing Bureau priorities.

Without the benefit of having a manual for reference my memory of the basic methodology is as follows: The grazing allotment was to first be stratified to establish what was known as "key areas" for monitoring. These key areas were to be selected based as the most reliable areas judged to most reflect the changes to vegetation and soils of the grazing system and other management measures. The key area selection was based on the size and variety of vegetative communities, major soil type changes, terrain, distance from water, fences, or other factors affecting the degree of livestock use, and in some cases wildlife habitat values. The key area was judged then to be representative of a particular segment of the grazing allotment. Within each key area a location was then selected to establish range trend photo plots. These plots were to be representative of the key area. Care was taken in their selection as to include within the plot those plant species or other attributes determined to be of value for monitoring, so there was selectivity involved and were not necessarily located randomly. A permanent stake was placed for the photo point of the plot and two opposing corner stakes were permanently placed to hold a frame which was either 3x3 foot square or 5x5 foot square depending on the vegetative type. The later size was more suited to large shrub communities. In these two field office areas, the 3x3 foot plot was most commonly used as the shrub species in these areas were quite small in stature resulting in the smaller plot being quite satisfactory and easier to photograph. The 5x5 foot plots required a small stepladder in order to approach getting an aerial view photo. A 3 foot or higher permanent reference stake was placed in the vicinity of the plot so that it could be easily seen from a distance. Documentation and mapping of the monitoring site location included on a special form was recommended for ease of finding the sites in the future, particularly if the reference stakes were missing or not easily seen.

The plots were to be photographed aerially using a 35mm wide-angle camera, by standing at the photo point stake and using the frame to identify the plot borders. In the first few years of the monitoring program, the photographs were usually developed by a firm in Texas that had contracted with the Bureau to help insure consistent quality of the prints. In time field offices found other means to develop the film such as using a local drugstore for this purpose. The prints were to be 4 x 6 inches and placed in binders for easy viewing and comparing from year to year. In addition a general landscape view picture was also required, using the same photo point and landscape photo, including about 10% sky in the horizon. As a rule care was to be taken to establish the photo points to point southward in order to eliminate shadows from the photographer over the plot and landscape. It was recommended for the photos to be taken annually and at about the same date each year or as close to it as possible to avoid any seasonal changes being reflected between different years.

In addition, the system called for identifying and measuring the vegetative cover of the plants in the plot. Often seedlings or small plants were counted rather than measured individually and then the cover area of that particular species was estimated. A square foot grid with smaller divisions was used as a tool to help with the ground cover estimates. A special form was developed, and later modified for recording the results. Also a map of the vegetation by species was to be drawn on the form. The purpose of this information was intended to reflect the quantitative changes in the vegetation community, by species, both numerically by number of plants as well as vegetative cover. The amount of vegetative litter, as well as any stones or rocks greater than 2 inches in diameter, were also to be included in these measurement. A formula was printed on the form to then determine the estimated amount of vegetative cover, etc. for each species. The quantitative vegetation information was to also be gathered every year to start with or as often as thought necessary to adequately reflect changes from implanting management measures. In time the Bureau found that the in many cases the quantitative data found by using this method could not be relied upon as a true indication of the actual vegetative changes occurring. Probably the most critical deficiencies of this method lay in the small sample size and the selectivity of plot locations. Linear transect methodology has become more acceptable for determining vegetative cover and individual plant species response, at least quantitatively. As a result, many offices quit monitoring the vegetative information in these plots many years ago, some offices periodically just took the photos, and some offices abandoned this rangeland trend method all together, using a different method or non at all.

In addition to monitoring the trend plots, grazing utilization estimates were also prescribed to be taken at the key area, preferably using the reference post as a take off point. The common method for measuring grazing utilization was the Step-point method. Utilization estimates were normally done annually as soon after the close of the grazing period as possible to prevent re-growth from complicating the estimates. Often grazing utilization estimates were made on these allotments for several years even after range trend monitoring had been halted in some offices.

The information from this monitoring methodology was to be filed separately by allotment and used periodically for analysis of the implementation of the allotment management plan and a determination as to meeting the plans' objectives. A special formula was prescribed to complete this analysis and its' use had mixed results. Many managers found the analysis was not defendable and so the method was no longer used.

I have prepared separate reports for each of the two field offices (Pinedale and Rawlins), attached.

Field Office visit to Pinedale, Wyoming for Review of Rangeland Trend Monitoring Program

July 26-27, 2004

Prepared by Jim Morrison, retired BLM

As part of the BLM Legacy Program I visited the Pinedale Field Office area of jurisdiction on July 26 and 27, 2004 to review the segments of their rangeland trend monitoring program that I help originate 35 years previous. I was accompanied by Bruce Van Haveren, BLM Senior Scientist, of the Federal Center in Lakewood, Colorado. We met with Pinedale Field Office staff members, Steve Laster, Nick Shultz, Amber Jackson, and Carrie Becker and briefly reviewed and discussed rangeland trend monitoring records. We then made our plans for the day to visit some of the monitoring plots in what previously was known in former years as the Desert Allotment 25-30 miles south of Pinedale. After meeting the Field Office Manager, Prill Mecham, we spent the remainder of the day in the field on the allotment and returned to Pinedale about 5:30 PM. The following morning Bruce and I reviewed monitoring records in the office and had discussions with some of the staff concerning the monitoring program.

Background and history initiating the rangeland trend monitoring system on the Desert Allotment.

I came to the Pinedale District (as it was known at that time and formally before that the Pinedale Grazing District) in the spring of 1969 as Area Manager for what was then known as the Pinedale Resource Area. This area basically encompassed the public lands east of the Green River within the District. At that time there were only two of us in the Resource Area, myself and range conservationist, Mark Hollis. We depended on the Branch of Resources and Operations staffs for all our support needs other than range management matters. Unfortunately, I was employed in Pinedale for only one year and did not have the opportunity to experience much follow-up management.

Two of the allotments in the Resource Area then had recently developed allotment management plans for the Bouseman Allotment and the Desert Allotment. As I had recently experienced establishing rangeland trend plots for monitoring in the Rawlins, Wyoming District from which I transferred from, and saw the need to establish monitoring to evaluate the effectiveness of the allotment management plans, we decided to initiate the monitoring that summer. We first established monitoring plots on the Bouseman Allotment located in the foothills south and east of Pinedale. We established two key areas with corresponding plots in June of 1969 on this rather small allotment. The State BLM Range Specialist at the time soon visited the allotment with us for a review and determined that at least two plots should be set up to represent each key area rather than one. This was a change in policy for me as we had only established one per key area in the Rawlins District and as recommended by the staff from the Denver Service Center who trained us there. So we immediately set up two plots near each other in the key areas and continued this practice later when we established the plots on the Desert Allotment. I think the logic was that two was better than one, particularly if one of the plots was no longer usable or could no longer be found. Also the results of the two data sources could then be compared for reliability. Since then the Bouseman Allotment has been further divided and the grazing system changed. Records indicate that photos were taken at the photo points as recent as July 15, 2003, which was the first time since 1986, and the latest vegetative readings were taken in 1985. Due to time constraints we did not visit this allotment for this review.

In July of 1969 we established the rangeland trend monitoring studies on the Desert Allotment. The allotment was a fairly large common use allotment consisting of 136,369 acres of which 95% was public land. It was a short term use allotment used by 18 cattle permittees who grazed the allotment with cattle during the months of May and June while they awaited "range-readiness" determinations for their Forest Service grazing allotments for summer use. There was also one sheep operator that grazed the allotment in the late winter and spring. In 1968 a rest-rotation grazing system had been designed and the allotment had just recently been divided into four pastures to accommodate the grazing system, requiring one pasture to be rested completely from grazing each year. The original objective of the allotment management plan was to increase the vegetative cover from an average of 40% to 60% for watershed protection. Supposedly the grazing system was not religiously followed and in time not at all. The system was changed to a deferred rotation grazing system in 1980 and in 1993, the allotment was divided into four smaller allotments basically using the previous pasture fences as allotment divisions and according to the field office staff the grazing use since then has been grazing season long (with some limited deferment) generally as it was prior to 1968.

Originally in July 1969 we identified 16 key areas on the allotment and established 32 trend plots (two at each key area) and took the photographs and conducted the vegetative readings. All of these recorded results currently remain in the files at the field office. Within a few years the monitoring of one of the plots at each key area was discontinued and assumed to be not needed. There may have been other reasons for abandoning some of the plots—for example one we visited contained a cow trail now through the plot. Many of these discontinued plots can yet be located today, as the plot stakes still remain.

Findings

In general, according to records, the plots were visited and photographed diligently through the 1970's and then less frequently in the 1980's, then almost no return was made to the plots since then until 1990 and 1991 when a few of the plots were revisited and photos (slides) were taken. Vegetative data was collected and measured about every three years after establishment until 1985. Since then no vegetative data has been collected.

Our field visit consisted of visiting five of the key areas and there we observed seven trend plots. All of the plots were relatively easy to find as all but one of the reference posts were still visible and with the plot location documentation in the file, little time was required in finding the plots. At each site we discussed the current findings, reviewed past photos and data of the plot, and discussed the values and shortcomings of the monitoring system. We visited the following trend plots: Sand Draw Allotment: plots 2, 6, and 7; and Alkali Draw Allotment: plots 1, 2, 3 and 4.

The following are some notes of the site specific visits:

Sand Draw Allotment, plot 6. The original cover was measured at 13.02% of which 10.22 % was vegetative cover. Our estimate now was it was about the same. At this site we also established a Daubenmire line transect and took the readings. The results compared well with the original 1969 measurements. A suggestion would be to use both methods at the same time and location and compare the results of the two methodologies. See Photos # 1, 2, and 3.

Sand Draw Allotment, plot 7 appeared to have a significant improved change both in cover and composition.

Sand Draw Allotment, plot 2: There is also an old permanent line transect plot, thought to be a Parker 3-step system or similar near the trend plot. There is a project marker stake with the following information on it: Desert Rocks Cluster No. 6, Sec 2, T29N, R108W, 1954. See Photo # 4. It would be of interest to find the data from this transect and compare it to the data of the nearby trend plot. Possibly this information was filed in what was then known as Range Condition and Trend Studies, which was a Bureau-wide effort at that time. We also found the original Plot 1 trend study nearby, which had been previously abandoned from further monitoring in the early 1970's. In comparison to previous data and photographs, a significant change in vegetative cover in the past 35 years is not apparent in this key area and the trend appears static.

Alkali Draw, plots 4 and 3 (previously abandoned and now contains a cow trail). This salt desert type appears static in vegetative cover and composition. Plot 4 had photos taken as recently as 1995. See Photo # 5. Nearby Plots 1 and 2 in a nearby sagebrush-grass vegetative type also reflected very little change throughout the 35 year monitoring period. See Photo # 6.

In addition to the trend plots demonstrating overall changes, or lack thereof in vegetation cover and species composition, other attributes were noticed such as the morphology and ages of individual plants, soil erosion characteristics, litter accumulation, desecration of animal fecal materials and plant litter. Any major changes in the overall landscape are quite apparent from the landscape-view photo. Many of the changes are subtle and not very noticeable from year to year, but often more substantial when photos and data covering many years of time are compared. Yet at other sites very little has changed in 35 years. The accompanying staff thought that most of the previously selected key areas were still valid for rangeland monitoring purposes.

A review of the records held in the office reflected that these records have been maintained in an orderly manner and readily available for use. The field office staff is commended for that.

The rangeland trend plot monitoring for the most part has been put on hold and almost totally neglected for many years. Monitoring now is limited to newly emphasized monitoring for riparian areas and the monitoring needed to determine if rangeland health standards and guidelines are being met, of which the Daubenmire transect method is used. Also, I understand some grazing utilization monitoring still occurs using the step-point method. Managerial priorities have seemed to not only deemphasize the need to monitor the long-term influences of grazing management on the rangelands, but the emphasis on grazing management also seems to now be less important. According to interviews with the staff, very few grazing permittees are following any sort of grazing management scheme other than season-long grazing or limited grazing deferment. (I define "grazing season-long" as grazing occurring throughout the entire allotment during the allotted grazing period year after year with no prescribed alterations or periods of rest from grazing during that period). Additionally, according to the staff, compliance concerning grazing permit terms has not been a high priority in recent years.

Recently a permittee monitoring program has been initiated in the Pinedale Field Office area. From what I understand this program is voluntary, but the BLM identifies the methodology and the terms of monitoring are agreed upon by the BLM and the permittee. The permittees do the monitoring and keep the records in an agreed upon matter with BLM. This gives the permittee more ownership of their grazing management on the allotment and a better understanding of the objectives for the rangeland resources that both BLM and the permittee are striving for. BLM provides the necessary training and oversight needed for this program. The degree of technical skills used in this monitoring may vary on a case by case situation, depending on the permittee's abilities. In many cases, it is planned to use the rangeland trend monitoring key areas and plots for this effort.

From discussions with the staff, there appears to be a lack of adequate reference points identified of locations to observe where no livestock grazing has ever occurred or has not occurred for many years, such as relict areas and fenced exclosures. These areas are invaluable to help determine site potentials and compare current grazing influences to the vegetation and soils to a non grazing situation. I understand that even the wildlife habitat exclosures built during the 1950's and 1960's have since been removed in the area.

Understandably some of the original grazing systems designed in the past were experimental and some no doubt failed to either meet management objectives or were considered too difficult to follow by the permittees. The question remains, however, if season long grazing, or some modification thereof is beneficial or not in meeting rangeland health standards and other resource objectives for any given area. However, a review of these concerns, were not the focus of my visit.

Recommendations

The following recommendations are given regarding the future use of the rangeland trend monitoring originally established in the late 1960's.

1. A concerted effort should be made to locate, photograph, and observe the vegetative and surface conditions in all plots (including those previously abandoned because of duplication

at key areas) and make a determination if the plot and its' location is still valid for representing the specific area of the allotment in regards to grazing management.

2. For those trend plots identified to be still valid and appropriate for continuing rangeland trend monitoring, a comparison should be done in recording the vegetative cover within the plot frame area as compared to information gathered from a Daubenmire transect taken nearby in the same key area. If an analysis of the comparison demonstrates a fairly close parallel in the results, then a long-term trend analysis of the key area using the gathered vegetative cover data from previous years and the recent information should be attempted. In any case it is recommended to establish a permanent transect at each of these locations for use of the Daubenmire or similar line transect method for future monitoring.

3. For future monitoring I recommend that photographs of the plots, including the landscape view, be taken at least once every three years or more often if there has been a grazing management change or some other reason such as the occurrence of fire, change in class of livestock, or some other factor that may significantly change impacts to the rangeland. Vegetative cover should then also be measured and recorded at these times preferably using line transects methodology.

4. An analysis should then be made from this monitoring data as well as other monitoring data collected for each allotment in relationship to rangeland health standards, and a determination then be made of any further management actions needed.

5. Continue to file the monitoring information in an easy to find and easy to use manner. Maintain the photographs in a consistent manner in quality and size for comparison purposes. Any slides should be converted to prints. Prints can be scanned and stored electronically if need be, as well as all monitoring information.

6. In appropriate situations, accommodate the permittee monitoring system with the continued use of the rangeland trend monitoring sites and methodology in addition to other monitoring that may be applicable. Care would need to be taken to ensure that the photography techniques and any quantitative measurements will be acceptable to BLM and would require specific training and oversight.

Other Concerns

Changing management philosophies, ideologies and program emphasis, appears to take away from the basic need for on-the-ground management, including rangeland monitoring. Although this has always been an obstacle from achieving the Bureau's primary role, it appears to be more apparent than ever at this time. From discussions with the staff, I am left with the impression that management emphasis is currently limited to maintaining "status quo", so to speak, in regards to vegetation cover, particularly on sites that are not riparian or where some other resource value is not threatened by grazing activities. I assume that this is all within the framework of ensuring standards for "rangeland health" will be met. That being the case, it surfaces the question, does BLM have the stewardship responsibility of these public owned land to also improve the environment in addition to maintaining it, where the opportunity presents itself ?"

I see an irony about the recent accelerated gas field development over the landscape in the Desert Allotment and elsewhere. The "overnight" changes allowed to the surface environment from this activity seem so dramatic as compared to the much more subtle changes that normally occur from livestock grazing influences particularly in an arid environment such as this. I'm sure this is evident by the public and the public land users, including the ranchers.

At a time when the range livestock industry is undergoing continuing challenges and review of the legitimacy of the grazing of public lands, it seems inappropriate not to place range management and monitoring as a high priority. The lack of adequate and dependable information will only sustain the issue in political quagmire rather than factual demonstration.

Appreciation

In closing I want to thank the Field Office Manager and her staff for their cooperation and support in accommodating this review.

Field Office visit to Rawlins, Wyoming for Review of Rangeland Trend Monitoring Program

July 28 and 29, 2004

Jim Morrison, retired

As part of the BLM Legacy Program I visited the Rawlins Field Office area of jurisdiction on July 28 and 29, 2004 to review segments of their rangeland trend monitoring that I had established 36 years previous. On the first day I was accompanied by Bruce Van Haveren, BLM Senior Scientist of the Federal Center in Lakewood, Colorado. We first met at the Rawlins Field Office to discuss the purpose of the review, reviewed specific rangeland trend monitoring records and the associated allotment management plans, and we then planned our field strategy for the next two days. At about 9 AM we traveled to the Standard Allotment located southwest of the town of Saratoga. Accompanying us were staff field office staff members Andy Warren, Chris Otto, and Mike Murry. We visited 3 monitoring sites on the Standard Allotment and later in the day we visited the Platte River Allotment north of Saratoga and visited 3 monitoring sites there. Bruce had to depart that evening for Denver. The next day Andy Warren drove me to the Sulphur Springs Allotment about 30 miles southwest of Rawlins accompanied also by Cheyrl Newberry and Mike Calton of the field office. There, we visited 6 additional monitoring sites and later returned to the office in the afternoon.

Background, history, and review of the rangeland trend monitoring system on the Standard Allotment.

As I recall, I developed the allotment management plan for the Standard Allotment during the winter and spring of 1968. Following this I established monitoring that grazing season using the rangeland trend monitoring system. During the summer of 1967 I had received training in establishing and maintaining this monitoring system. The Standard Allotment is a rather small allotment containing about 13,000 acres in which 87.4% is public land. Traditionally and at the time the plan was developed the allotment was used by a band of sheep in early spring and late spring by 500 cattle. Since 1990 there has no longer been any grazing by sheep and in recent years the allotment has only received light grazing use by cattle. The original management plan prescribed a deferred-rotation grazing system, and was divided by fencing into three pastures. Several additional livestock water sources were added to improve grazing distribution. In addition starting that first season a total of 8700 acres on the allotment were treated chemically for sagebrush control. The original objective for the plan was to increase the amount of cover for watershed protection and increase the proportion of grass species for livestock forage.

In 1978 the management plan was revised based from monitoring data and concerns by the Bureau and the permittee. Vegetative cover measurements in 1968 averaged 24.18% (litter not included) and showed an increase to 26.21% in 1974. Then in 1978 the measurements identified a decrease of 12.62% showing a decrease in ground cover of almost one half. In 1977 the methodology for measuring vegetative cover was changed to comply with the

Wyoming Integrated Study Procedure, recommending 100 point pace transects methodology. I did not review the actual analysis data from the monitoring to know if any of this difference in 1978 was subject to different measuring methods or that a correlation had been found with the previous measurements in 1968 and 1974. Regardless, a revised plan was developed with hopes of increasing the key forage species from 20% to 35-40% and to increase the ground cover (vegetation and litter) from 15-20% to 30% or more, for watershed protection. In addition it was determined that at least 15% of the vegetation cover needed to remain as sagebrush to help maintain habitat for pronghorn, mule deer, and sage grouse. A few years earlier, 1000 yearling cattle were authorized to graze the allotment in place of the traditional use made by 500 mature cows. That extra grazing use in combination with some below normal precipitation years was thought to be the primary cause of the reduced vegetative cover. The new plan called for a return to the 500 cattle along with the sheep use in the spring, and again in the fall and winter months. In addition a full rest-rotation grazing system was to be applied. Since 1990 the sheep AUMs have been put into suspension until monitoring reveals that there is adequate forage to sustain that amount of use or to convert that amount of use for additional cattle grazing. The authorized use since then on the allotment has been for 500 cattle for the months of May and June.

In 1968 there were 14 rangeland trend monitoring plots established representing that amount of key areas. A special effort was made to locate key areas in and out of planned sagebrush control areas, therefore requiring more trend monitoring sites than would be normally be expected for that amount of acreage. After the plots were established, photos were taken most every year until 1980 and then again in 1989 and 1993. No photos had been taken since then. Vegetation cover was measured after 1968 in 1974, 1977, 1978, and 1980 (this being the last year of recorded measurements). As mentioned before the readings done in 1968-1978 were used for analysis and modification of grazing management.

Findings for the Standard Allotment

We field visited three of the monitoring sites, one in each of the three pastures. The following are my notes taken at each of the three sites.

Pasture 1, Plot 4: Observations indicate that big sagebrush has increased somewhat within the plot, both in ground cover and in number of plants. Rabbitbrush plants have decreased in number. Observations in the surrounding area outside the plot also verify this change. See Photo # 1.

Pasture 2, Plot 3: There has been a substantial change in composition and the amount of groundcover. This area was chemically treated in 1968 and photos up to 1989 show a complete change since then with a large increase in grass and forbs, with only a few sagebrush plants seedlings re-entering the area after several years. Now the site is completely re-invaded with sagebrush plants and very little other plant species exist. One theory is that the lack of sheep grazing on the allotment since 1990 may have helped contribute to the re-invasion.

Pasture 3, Plot 2: Overall this plot did not show much change. During the 1980's some of the grass species showed good vigor, but most of these plants have now disappeared.

The monitoring records for all three allotments visited were filed in the office in binders, including all photos and documentation of the monitoring results gathered. All the photographs for each plot were filed in a packet pocket and had to be taken out and spread out in order to compare from one year to another. The field office staff is commended on their effort in maintaining the files in relative good order.

Background, history and review of the rangeland monitoring system on the Platte River Allotment and the Sulphur Springs Allotment.

The authorized grazing for the Platte River allotment and the Sulphur Springs allotment are by the same permittee. The Platte River allotment contains mixed ownership of land with a so called checkerboard pattern, containing a total of 17,708 acres, of which just 45.3% is public land. The allotment has been grazed by cattle (cow-calf and yearlings) for many decades as a spring and fall use allotment, as the cattle are moved between summer and winter ranges. The Sulphur Springs allotment is a higher elevation allotment just across Bridger Pass on the west side of the Continental Divide and is used as the permittees main summer range. This allotment contains 21,763 acres of which 58.9 % is public land.

A combined Allotment Management Plan was developed in 1967 for both the Platte River and Sulphur Springs Allotments. In the summer of 1968, I was assigned to establish rangeland trend monitoring for both allotments. I established one trend plot at each of 9 key areas on the Platte River Allotment and on 13 key areas on the Sulphur Springs Allotment. Photos were taken of the plots and vegetative-ground cover measurements were taken at all monitoring sites. Photos were then taken annually on both allotments for most of the following years until 1989, and then not again until 2002 and 2003. Follow-up vegetative and ground cover measurements were conducted again in 1972, and again in 1988 and 1989, and were used for evaluation purposes in determining allotment management plan modifications in both 1972 and 1990 for both allotments. Photos, and measurements using a line transect method have been taken now in 2004 for both allotments. Another evaluation and plan revision now is planned. There remains a concern that vegetative cover and composition goals are not being met for these allotments.

Both the original and the modified plans prescribed deferred-rotation grazing systems. Increased water developments and pasture fences were installed on both allotments, and considerable sagebrush control was implemented chemically on the Sulphur Springs Allotment, in the 1960's and 1970's, and then through prescribed burning in more recent years. In recent years increased emphasis has also been placed on riparian area management on the Sulphur Springs Allotment whereas most all of the riparian areas on the Platte River Allotment are privately owned and also are not located within the pastures under BLM prescribed grazing management. The two main pastures for grazing management (pastures 3 and 4) are about the same now as when the original plan in 1967 was developed, whereas the two original pastures on the Sulphur Spring Allotment have since been again divided into six pastures, primarily to accommodate better grazing management of riparian areas.

Findings for the Platte River Allotment

We visited three key area trend plot locations on the allotment, Plots 1 and 2 in Pasture 3, and Plot 3 in Pasture 4. Observations and review of past monitoring data, indicates that overall not much change has occurred in these three areas, as the vegetative cover and composition remained relatively static. See Photo # 2.

Findings for the Sulphur Springs Allotment

We visited six key area trend plot locations on the allotment all within the original Pasture 2 (south and east part of the allotment). I made the following notes for each site.

Plot 1: There has been some degree of change throughout the years, resulting in now a greater diversity of vegetation, namely more forbs and grasses, and much of the sagebrush plants have died out.

Plot 6: This plot demonstrated a great increase in overall vegetation cover and particularly with grass species. Originally the ground cover was measured to be about 25% and now it appears to be about 80%. The area received chemical sagebrush control in the late 1970's, and since 1992 the area where the key area is located has only been grazed in the fall to enhance nearby riparian areas.

Plot 7: This area was chemically treated in June of 1968. This plot was located later that same year in August with the resultant photos and data reflecting a post-treatment situation. Today, sagebrush has yet to re-establish in the area. Vegetative cover has increased slightly with more grass plants apparent, but the total ground cover has not improved with an estimated 25% bare ground now as compare to 18% in 1968. See Photo # 3.

Plot 8: This site was prescribed burned in the fall of 1999. Since then there has been a major change in the number of grass plants, and sagebrush remains absent. There has not yet been much of a litter buildup since the fire. See Photo # 4.

Plot 3: The vegetative cover appears to have increased to some degree, but the vegetative composition remains about the same.

Plot 4: Not much change in cover or composition. Interestingly, a comparison of photos throughout the 36 year time span at this plot remarkably reflects the lifespan of individual sagebrush plants and the recruitment of young plants. Plants that were juveniles in 1968 matured and died-out after a few decades and the new recruitments plants replacing them are now attaining maturity. See Photo #5.

Overall findings

The rangeland trend monitoring program initially established in the 1960's in the Rawlins Field Office, has been useful in recording, both through photographs and documentation, the dynamics of various vegetative communities at site specific locations. As evidenced in plan modification processes, the information has been useful in determining success or failure of implementation of management measures and in determining courses of action to take in future management, through analysis of the information. On the other hand, experience has shown that some of the monitoring sites or key areas may not have been located in an area that best reflects an example of the actual livestock grazing influence that a given area of the allotment receives. For example, many of the previously identified key areas are no longer used for annual grazing utilization monitoring by the staff because of this, and in some instances such as in riparian areas, additional monitoring sites, using different methodology has been established. In addition, the vegetative and ground cover measurements previously taken within the trend plot using the original prescribed methodology have long been suspect in relating to a valid example for the specific area, and other methodologies are now more acceptable. The field office, however, continues to use the plot sites for photo comparison purposes and also to review the previous quantitative information in an attempt to understand the historic trend of the vegetative communities. Attempts are made to incorporate this information for management assessments, even though new techniques and new resource concerns have also emerged in time.

The field office staff indicated there are limited locations that demonstrating vegetative communities not being influenced or recently influenced by livestock grazing, such as relict areas and fenced exclosures, but they do use these sites when the opportunity presents itself in an attempt to predict vegetative site potentials.

Bureau management priorities are now more focused on monitoring in relationship to meeting the Rangeland Standards and Guidelines developed in the late 1990's, riparian area assessments and condition monitoring, and monitoring for specific wildlife habitat concerns. However, rangeland trend monitoring efforts can be correlated in assisting to help evaluate conditions for these newer priorities in some cases, even though there has been a reduced emphasis in obtaining rangeland trend information. Although there has been a large gap in the recording of the year to year dynamics that was the common focus of the rangeland trend monitoring effort, recently there has been an awareness to again review this information on some allotments, and to even continue the observation and photographing procedures, at least, of this monitoring system. At some of the trend plot sites, line transect measurements continue to be conducted, to obtain the quantitative information.

Recommendations and Concerns

1. For those allotments where rangeland trend monitoring has been established, a diligent effort should be made to evaluate the information and relate it to the current needs. In situations where the existing trend plots appear to be representative and useful for continued monitoring purposes, the photos and vegetation/ground cover measurements (using a line transect method) should be continued. The photos and cover measurements should be taken

at least every three years or more often if a management change has occurred, or other reasons such as a wildfires, or similar actions that may cause a rapid change to the vegetative dynamics of the site.

2. Rangeland trend monitoring information, rather old or current, should be evaluated in conjunction with all other rangeland concerns and values when determining future management actions. Attempts need to be made to draw some conclusions using this information as to what has happened in the past and what may happen in the future, using varying alternatives. In many cases trend plot information has revealed a static or downward trend since 1968. This information is invaluable in determining future management needs, direction, and priorities.

3. Specifically, the trend monitoring information gathered on the Standard Allotment needs to be re-evaluated and comparisons made as to the grazing history to determine what specific changes to the vegetative community has occurred and why. Observations and review of the data indicated a dramatic change has occurred, but not toward meeting original objectives. A leading question arises as to what influence did the sheep grazing contribute in the past?

4. Re-examine those trend plot locations that appear to receive very little livestock grazing influence to evaluate their further value for monitoring and abandon those no longer useful. Additional new trend plots may then need to be established in some cases if a portion of the allotment is not adequately represented for trend monitoring. In areas where the trend plots are located in key areas and are still determined to be valid sites representative of the livestock grazing influences, grazing utilization monitoring should continue be conducted at these sites in order to correlate the influences to vegetative trend. Since none of the original key areas were established in riparian areas, monitoring for those purposes will also have to be done.

5. Efforts should be made to incorporate the trend photos and other recorded data into electronic files for easier and more flexible use in the future. The accumulative volume of photos, in particular, for each plot site makes viewing comparisons very difficult.

6. Attributes, particularly of the trend photos, that should be evaluated in addition to the specific vegetation/ground cover changes that the photos often reveal are changes to the soil surface characteristics, plant age and morphology, desecration time patterns of plant litter and animal fecal materials, and other attributes that may be illustrated in the landscape photo such as a nearby wildfire occurrence, etc. An example of the latter is a landscape photo of plot 4 in Pasture 2 of the Sulphur Springs allotment which illustrates on the horizon a wildfire that occurred within a month of taking the original photo in 1968. With this photo some of the vegetative succession changes can then be observed, although from a long-distance, throughout the past 36 years. Another example are snow cap deviations between years where mountain ranges show up in the background photos, giving some indications of the snow moisture relationships that may have had an influence on the site, particularly on the higher elevations areas.

Appreciation

I want to express my appreciation for the excellent cooperation and support I received from the field office staff for this visit. I regret that Lloyd Eisenhauer was not able to accompany us as he would have contributed a wealth of information.

Red Rock Lake Wetland Project, Mount Dome Planning Unit
Alturas Field Office, Alturas, California

Note: The Mount Dome Planning Unit was formerly located within the Siskiyou Resource Area, Redding District of California. Due to BLM's reorganization of its Northern California offices in July of 1982, the Redding District Office was disbanded, and the administration of the subject lands, now called the Mount Dome Planning Area, was transferred to the Alturas Resource Area of the Susanville District, now known as the Alturas Field Office.

PARTICIPANTS

Legacy Project Team/Field Trip Participants
Mark Lowrey, Rangeland Management Specialist; Marti Butow, Wild Horse Specialist; both of BLM Alturas Field Office, California
Jan R. Miller, Former BLM Siskiyou Resource Area Manager, now retired from BLM's Medford District, Oregon
Bruce Van Haveren, BLM Regional Science Coordinator, Denver, Colorado
Kata Bulinski, Former BLM Siskiyou Resource Area Range Conservationist, currently BLM Baker Field Office Surface Protection Specialist, Oregon

Other Contributors and Personal Contacts who assisted included:
Numerous Alturas Field Office Staff Members
David Ericson, Current Grazing Permittee and Former Fencing Contractor for the Red Rock Lake Wetland Project
Katya Bridwell, former BLM Siskiyou Resource Area Range Technician, who completed the Preliminary Red Rock Lakes Wild Horse Herd Study (1977-8)

BACKGROUND

Red Rock Lake Wetland Project, Alturas Field Office, Northern California-
In 1975, BLM determined that Upper Red Rock Lake, a 47-acre natural volcanic basin lake five miles southwest of the Lower Klamath National Wildlife Refuge, was well suited for wildlife development. In March, 1976, the BLM Siskiyou Resource Area of the Redding District proposed to enhance nesting and feeding habitat for waterfowl, using funds contributed by the California Wetlands Foundation. The project included three phases: 1) Construction of a perimeter exclosure fence to prevent vegetation damage and soil compaction, a barbed wire fence excluded livestock, a wild horse herd, mule deer and pronghorn antelope. Fenced alleys extending into the lake provided watering access for grazing animals and wildlife. 2) Nesting site establishment- Four floating docks were installed as nesting islands anchored on the lake; tires were placed as nest supports on islands, rock jacks, and along the shoreline; and brush piles were developed for wildlife cover. 3) Aquatic plant re-establishment- Seeding of aquatic plants, in particular alkali bulrush, was proposed, to provide feed and cover for waterfowl. The project file states that

seeding was scheduled for the fall of 1977; however, the seeding probably did not occur, due to the 1976-77 drought and other factors.

PROJECT DESCRIPTION

Red Rock Lake Wetland Project Construction, 1976-

The Red Rock Lake Wetland project was constructed in June and July of 1976. At that time, I, Kata Bulinski, was a seasonal range conservationist with the BLM Siskiyou Resource Area, and I administered the contract for the barbed wire fence, and worked with the Youth Conservation Corps (YCC) crew of 20 high school students from Fall River Mills, California. The YCC crew, directed by BLM crew leaders, completed the waterfowl nesting site work, including the installation of four 5 x 7 foot sections of redwood dock anchored by 18" steel cable to rock-filled gabions, placement of tires and brushpiles for nesting and cover, construction of stiles to cross the fence, and installation of a large wooden interpretive sign. Seeding of aquatic vegetation within the project was proposed to be completed in the fall of 1977, but this probably did not occur.

Other Related Projects 1960's through 1977-

BLM initiated several other projects in the Mount Dome Planning Unit, more or less contemporaneously with the Red Rock Lake Wetland Project. I decided to include in this Legacy Report some observations and discussion of these projects and their monitoring. Included are brief discussions of range condition and trend transects, wildlife browse transects, wildlife guzzlers, wheatgrass seedings, and the Red Rock Wild Horse Herd Management Plan. Other area projects, such as juniper reduction, wheatgrass exclosure fences, antelope bitterbrush exclosures, and rain gauges, were looked at in the field, but are not discussed in this report.

BLM LAND USE PLANNING- MOUNT DOME PLANNING AREA

Land Use Planning Decisions for the Mount Dome Planning Unit, 1981-

In 1980-1, BLM Redding District completed a Grazing EIS and Management Framework Plan (MFP) for the Mount Dome Planning Unit. Issues identified included the allocation of vegetation for competing consumptive uses: livestock, wild horses, and wildlife. Decisions made which are relevant to the Red Rock Lake area include 1) making juniper available for firewood, 2) adjusting levels of livestock up or down as indicated by monitoring for the continued production of native perennial vegetation, 3) forage for livestock, wildlife and wild horses, and watershed values, also the protection of cultural values. Further, a decision for the management of the Tablelands area (about 3 miles east of Red Rock Lake area) stresses the need to emphasize the range and wildlife values that are present, including pronghorn antelope and wintering area for mule deer.

Wildlife Habitat Management Plans, 1985-

The only available document I could locate was the McCloud Flats Deer Herd Management Plan, coordinated by the California Department of Fish and Game, US Fish and Wildlife

Service, the US Forest Service, and BLM, in 1985. This plan addresses deer herd numbers and locations in the region, including the Butte Creek winter subherd of the McCloud Flat deer herd. This plan did not contain specific guidance for monitoring of mule deer herds; however, monitoring protocols may have been addressed by California Department of Fish and Game direction or a Memorandum of Understanding.

Red Rock Horse Herd Management Plan, 1985-
In 1977, during the preparation of the BLM Mount Dome Unit Resource Analysis (URA), Katya Bridwell, BLM Range Technician, completed a preliminary study of the Red Rock Lakes Wild Horse Herd, which then numbered about thirty animals. The report recommended that BLM complete a Wild Horse Herd Management Plan.

In 1985, Joseph A. Wagner, BLM Alturas FO Range Conservationist completed the Red Rock Horse Herd Management Plan, which was revised in April and in June of 1989. Findings and recommendations of the plan identified the herd management area as about 17,000 acres, including 12,475 acres of federal lands. Objectives were to maintain a self-sustaining minimum herd size of 16 head and a maximum of 25 head of wild horses, to maintain a healthy, viable herd, and to achieve 100% adoptability of offspring in the Red Rock Herd. Range stocking rate was the only management option identified in the plan. The plan directed BLM to select for the base herd horses which have adoptable characteristics, light (as opposed to draft) horses, and representing a variety of colors. The plan further stated that BLM Land Use Plans will allocate sufficient forage to properly maintain the planned population levels (of wild horses) established.

Grazing Allotment Management Plans, 1984-
J. Bruce Pedersen completed an Allotment Management Plan (AMP) for the Donald Ericson and David Ericson Allotments in 1984. Both AMP's called for monitoring of range condition every three years.

A Rangeland Program Summary Update was prepared in July 1988 by the Susanville District for the Alturas, East Shasta and Mount Dome Planning Areas. There are currently eight grazing leases in the Mount Dome Planning Area. The North Red Rock Lake Allotment is held by Donald and Lois Ericson (Donald is now deceased) and West Mahogany Allotment is held by David Ericson, Donald and Lois's son.

Land Tenure Adjustment Plan, 2002-
The former Alturas Field Office Realty Specialist, Pete Humm (now retired), completed a Land Tenure Adjustment Plan which provided guidance to consolidate public and private land ownership parcels in well consolidated, manageable blocks. Specific parcels were identified for disposal to the Lava Beds National Monument. Implementation of this plan would not only contribute to efficiency of land management, but would also simplify access to isolated tracts of BLM-administered public lands.

At present, this plan is proposed to be "rolled over" into the Alturas Field Office proposed Resource Management Plan; the draft version is pending in 2004.

Western Juniper Management Strategy, 2002-
In the Mount Dome Planning Area, as elsewhere in Northeast California and in the West, encroachment of western juniper is decreasing the quality and number of acres of native range. It is estimated that western juniper currently occupies about 3.5 million acres of rangeland in northeastern California, constituting a 10 to 20-fold expansion of juniper range in the past 130 years. In January, 2002, the BLM Alturas Field Office and others began a regional planning effort to control the spread of juniper trees and reduce the density of juniper woodland stands. The objective of the plan is to improve the health of the public lands. A sensible reduction in current levels of juniper encroachment (biomass harvesting, prescribed fire, herbicide or hand treatment) could lead to greater plant and animal diversity, improved water quality and an increase in available soil moisture on these northeastern California rangelands.

At present, this regional, interagency plan is pending; appropriate measures have become a part of the Alturas Field Office proposed Resource Management Plan.

Resource Management Plan (proposed) for Alturas Field Office, (draft) 2004-
The updated Resource Management Plan is pending, and will be available in draft in the next few months.

FIELD OBSERVATIONS

Legacy Participants Field Exam Findings, August 10-12, 2004-

Local area changes observed by former Siskiyou Resource Area Manager, Jan Miller, and myself included the following:

Access and Land Use
There are more total miles of paved roads. The Red Rock Valley Road, for example, is now paved several miles beyond Louis Parson's farmhouse, where the pavement formerly turned to gravel. Roads which were formerly poor quality dirt or gravel roads are now well-graded easy-to-travel county roads.

As has occurred elsewhere in the rural West in the past few decades, large ranches have been subdivided and numerous scattered rural "ranchette" homesites have been developed. These changing land use patterns increase impacts for wildlife home range and migration patterns, and often decrease public and agency access to the public lands, which are intermingled with privately-owned lands under management of many owners.

Both public and administrative access have been affected; the access for much of the Mount Dome area has been compromised due to changes in land ownership. BLM did not acquire legal access, either for public or administrative use to many of the blocked inholdings of BLM-administered public land, because ranch owners, who were usually grazing permittees, allowed access across their private lands for BLM and sometimes public use as well. Today, there is poor access to the Red Rock Lakes site, via a difficult 4-wheel drive road which takes 1 ½ hours to drive, creeping up Coyote Ridge.

It appears that, due to travel time to the site, an area which was once a forgotten corner of the Redding District (it took 3 hours to drive to the Red Rock Lake site from Redding in 1976) now takes about 3 hours to drive to from Alturas. (However, with today's access limitation, adding 1 ½ hours, the drive would take 4 ½ hours from Redding.) Perhaps the area is forgotten again in its current circumstances, due to geographic inconvenience. Another alternative that could be considered is for field administration and compliance of the Mount Dome Planning Area to transfer to the BLM Klamath Falls Field Office in Oregon, with a drive of about 2 hours drive to the site in 2004.

Red Rock Lake Appearance, Hydrology and Water Resources

Upper Red Rock Lake, where the wetland project was constructed, appears to have filled in somewhat, due to natural contribution of sediment. Also, its shoreline vegetation reaches further into the lakebed today than in 1976.

The Upper Red Rock Lake is a natural, large (47 acres in 1976) lake; however, it lies in a shallow volcanic basin. Even in 1976, the maximum lake depth was recorded to be six feet. The shallowness of the lake probably increased the effects of freeze-thaw damage on the nesting platforms and their anchor systems (cables and rock-filled gabions). Both drought and high-water cycles have affected the integrity of the BLM's wetland project; the nesting platforms, brushpiles and fence are no longer in place.

In drought years, such as 1977-8, the lake was extremely shallow—a two foot depth, or totally dry. (Please refer to the 1977 photos of Jan Miller and Jeff Mattison, dragging the goose nesting platforms back into place using a pickup truck to cross the lakebed, which was totally dry by late summer of 1977.) During droughts, the watering alleyways in the exclosure fence did not reach far enough into the lake to allow grazing animals access to water. The wild horse herd almost surely damaged the fence getting to the small amount of water that was available.

At the other extreme, periods of high water (early 1980's) raised the water level above the edges of the shallow basin, flooding out and killing overmature junipers on the west bank. This, too, contributed to the failure of the exclosure fence, as the fence had been attached with flashing to several junipers, which were key anchor points.

Vegetation

General observations include the increase of many more acres of irrigated fields on private lands, and more acres under cultivation—mostly to hay crops—within the Mount Dome Planning Area. Also, I believe that sharecropping arrangements were in place between the National Wildlife Refuges and private agricultural entities in 1976, and that potatoes and onions were planted on the Lower Klamath Lake Refuge lands. I did not observe commercial crops planted on the USFWS Lower Klamath Lake and Tule Lake Refuge lands at this time. However, I did not investigate this matter further.

Vegetation of the Mount Dome Planning area includes the big sagebrush and western juniper series. Antelope bitterbrush and curlleaf mountain mahogany are represented also, especially on rocky upland sites. Typical plants in the uplands are big and low sagebrush, bluebunch wheatgrass and Idaho fescue. Modern intrusions of juniper, medusahead and cheatgrass have replaced much of the original flora.

Since 1976, western juniper has continued to encroach. Jan Miller stated that there was not really a noticeable change, that junipers were always pretty dense in the Red Rock Lakes area. Although I agree with his recollection of the density, the comparison photographs I viewed with Rangeland Management Specialist, Mark Lowrey, clearly showed an increase in juniper acreage and density. Bare soil or annuals are frequently replacing the bunchgrass and shrub component (scattered small clumps of antelope bitterbrush, mountain mahogany). I saw more rabbitbrush and more areas of well-established cheatgrass than I had remembered from the 1970's, with smaller areas of native bunchgrass such as Thurber's needlegrass and Idaho fescue. I saw fewer scattered curlleaf mountain mahogany shrubs; perhaps these were lost due to drought conditions and overuse by grazing/browsing pressure from wild horses and wildlife.

I noticed a noxious weed, perennial pepperweed, growing thickly along the ditches of the National Wildlife Refuge. Although it has probably increased in the past 30 years, I'm not certain that it was not present in 1976.

Wild Horses

The Red Rock Lakes wild horses are still present; at the time of our field visit, a band had recently passed through the Upper Red Rock Lake area and ascended Mahogany Ridge.

Wild horse travel and resting areas show obvious compaction and heavy use. Wide swaths of bare, compacted earth indicate the travel areas; in addition, much sign, including stud piles, can be easily found. Perennial bunchgrass is very closely cropped in a number of locations—this is very likely due to the horse herd use.

Today, there is no water on the Tablelands, and no winter range available for the horses; the herd's home range appears to be surrounded by private lands with agricultural fields, which have probably become the winter range for the horses. There were some guzzlers and wildlife drinkers on the Big and Little Tablelands, Coyote Ridge, Sheep Mountain, Mount Dome, and Box Canyon. The one we observed was not longer functional.

Since several of the permittees have not turned their stock out on the BLM lands in a number of years, it is likely that the wild horse herd is a primary factor behind the decrease in native bunchgrass and increase in annual invaders.

Wildlife

There was very little evidence of antelope and mule deer using the Red Rock Lakes and Tablelands vicinity—Jan Miller and I noticed less sign of them than we had expected. Our team sighted only a few deer and antelope, resting in irrigated alfalfa fields. Since our

Legacy team only visited the area for two days, these observations are anecdotal only, and are by no means a scientific census.

In 1976-78, I saw mule deer during most field exams in the area east of Red Rock Lakes and on Coyote Ridge; today, these areas look heavily used by wild horses. Similarly, antelope were almost always obvious on the Tablelands, with several sightings in the Red Rock Lakes area as well, in 1976-8. Further, the Mount Dome Grazing EIS identifies the Little Tablelands as a well-established antelope kidding ground. The Alturas FO staff has not observed or studied this. This is very likely due to a lack of information being passed to the Alturas FO by former Redding District records at the time of the northern California reorganization, and due to higher priorities on other public lands managed by the Alturas Field Office.

Mule deer and antelope use may have declined in the Red Rock Lakes-Tablelands areas due to their opportunistic use of irrigated farmed fields for feed, resting and cover, resulting in "welfare antelope and deer." Also, water improvements such as guzzlers which once provided water for wildlife are no longer functional. The California Department of Fish and Game may have additional information about herd census numbers, but I did not investigate this.

MONITORING and FILE MAINTENANCE

I have chosen to expand the review of my Legacy Project from the Red Rock Lake Wetlands Project, and to discuss monitoring for additional interrelated "projects" in the Red Rock Lakes area, Mount Dome Planning Unit, including Range Condition and Trend Transects, Wildlife Monitoring Transects, Wildlife Browse Transects, Wildlife Guzzlers, Wheatgrass Seedings, and the Red Rock Wild Horse Herd Management Plan. I will therefore discuss each project, with specific remarks on objectives, monitoring, file management, and current observations/conclusions. For several of the projects, not all guiding questions will be answered, as information was not available.

The Guiding Questions for Legacy Program Field Visits, FY 2004, are:

1. What were the original objectives of the resource monitoring?
2. What were the goals or expectations in terms of utilizing the results?
3. When was the monitoring initiated?
4. What type of monitoring was initiated (transects, photo points, plots)? How are the sites marked and documented? What was the frequency of monitoring? Has monitoring continued to the present?
5. Were photo points established? If so, have they been re-taken recently?

6. What is the status of the project files and where are they maintained?
7. What are your observations and conclusions based on the 2004 site visit?
8. What do you recommend to the field manager in terms of follow-up actions?

Red Rock Lake Wetland Project

The original objectives were to establish/enhance wetland habitat, while providing watering access for grazing animals, including livestock, a wild horse herd, antelope, and mule deer. The project was constructed in 1976.

Our observations revealed that the years of drought and flood and frost heaving, damage to fencing by the wild horse herd, fallen (flooded) junipers, took their toll on the exclosure fence, the wooden interpretive sign, the brushpiles, and the goose nesting platforms, which are now separated from their gabions at the north end of the lake.

The large wooden interpretive sign is gone, although one wooden post is still standing. The sign declared the partnership between the BLM, the California Wetlands Federation, and the Youth Conservation Corps in completing this wetland enhancement project.

It is likely that no seeding took place, as neither the purchase of seed or seeding is documented in the project file. Neither Jan Miller nor I remember the purchase of seed. Also, 1977 was the second drought year (see photos of Jan and Jeff Mattison dragging the goose nesting platforms back into place using a pickup truck to cross the dry lakebed). Most likely, the seeding of the Red Rock Lake Wetland Project was postponed and then forgotten. Some sedges are present today; probably the seed was carried in by waterfowl from other wetland sites.

The vegetation in the lake basin has changed. There is simply much more vegetation present, probably due mainly to the sedimentation of the Lake, which probably does not fill to 47 acres anymore. A perennial knotweed, woody shrubs of the *Polygonum* genus, and a few scattered sedges have filled in the shoreline zone, which in 1976 had only grasses and aquatic vegetation such as pondweed. Perhaps this increase in woody/perennial vegetation has resulted from the sedimentation of the lake, as it has decreased in size. In any case, according to current observations, waterfowl use the Upper Red Rock Lake for nesting and resting during migration. A number of two-inch diameter willows now grow along the remains of the west fence line (partially intact), protected from browsing by location and fence wire.

Junipers have increased. Antelope bitterbrush may have decreased, with rabbitbrush, sagebrush, and annual invaders increased. Overall, understory vegetation in the Red Rock Lake basin appears to have a greater number of annuals, and fewer native perennials.

Monitoring of the Red Rock Lake Wetland Project consisted of several project inspections and maintenance in the first few years only, such as relocation of goose nesting platforms in

1977 during a drought. . The contract inspector's log for the construction of the fence is in the project file, but no photos from 1976 are in the file.

No photo points were formally established, although, due to accessibility, a number of sites could be identified easily for repeatable photographing. Monitoring began with construction photos during the summer of 1976. However, none of these photos are currently in the project file.

Only a draft copy of the "thank you letter" sent by BLM State Director Ed Hastey to the California Wetlands Federation remains in the file. (The delegation of authority and protocol for signing letters was different in 1976; I remember that it was fairly common for copies of State Director correspondence not to reach the appropriate BLM Area or District Offices files.) Originally, a number of photographs had been reproduced and used for this letter and placed in the files. These included one showing the large routed wooden sign explaining the project's objective, and the contributed funding and workhours from the California Wetlands Federation and the Youth Conservation Corps. Also, there were photos of YCC kids at work filling the gabions with rock and constructing the brushpiles and goose nest supports, and of David and Steven Ericson constructing the fence and rock jacks.

Some regular monitoring, even once in every two years, would help to assess wildlife and wild horse herd use of the lake and its surrounding area.

Range Condition and Trend

The original objectives of the Mount Dome Management Framework Plan (1981) were to manage for the continued production of native perennial vegetation…(other than in existing seedings)…management will consist of adjusting levels of livestock up or down as indicated by monitoring." Allotment Management Plans (AMPs), including those for Donald and David Ericson's allotments in the Red Rock Lakes vicinity, prescribed vegetation trend studies "to be conducted every three years for rest-rotation pastures…."

At this time, the stocking rates were 301 AUMs on 3400 acres for David Ericson and 85 AUMs on 1279 acres for Donald Ericson. Although some adjustment (on paper) was made to decrease AUMs available for livestock grazing due to wildlife use, I noticed only one notation identifying 30 AUMs for mule deer.

Forage competition by wild horses, cattle, antelope, and mule deer are all factors in the range condition. From my perusal of the records, it does not appear that wildlife or wild horse herd use of the forage is actually integrated in stocking rates planning or monitoring—horses, wildlife, grazing by domestic livestock. For example, several of the grazing permits allocate forage for mule deer use, but do not include any allocation of Animal Unit Months, (AUMs) for the wild horses or antelope. (It may be that one allocation was meant to serve for all nondomestic grazing animals, but the records do not indicate this clearly.)

Most grazing permittees in the area of Red Rock Lakes/ Big and Little Tablelands have been taking non-use and resting their allotments, due to juniper encroachment and overuse of the range by wild horses. It appears that a current assessment of range resources would reveal what the carrying capacity of this range resource is, and whether sufficient vegetation exists to meet the needs of livestock, wildlife, and wild horses.

In 1984, J. Bruce Pedersen completed an Allotment Management Plan for the Donald Ericson and David Ericson Allotments (probably also for the other six allotments in this area, although I didn't check this). In my opinion, it appears that wild horse herd use was not accurately factored into stocking rates. Even in 1976 and 77, some area permittees were resting the range by taking non-use; today, nearly 30 years later, the practice of taking non-use most years "because of the wild horses" is more widespread in the vicinity.

Both Ericson AMPs called for monitoring every three years, using pace frequency transect method (used in the early 1970's) or basal cover or Parker Loop index. Objectives and methods for the Ericson AMPs included the following:

-improve livestock distribution by developing/reconstructing water improvements and fence

-increasing available forage by juniper removal and seeding to grasses and legumes

-maintain or reduce sheet erosion by maintaining ground cover

-maintaining or improving wild horse habitat and forage, by seeding and juniper removal

I remember having seen monitoring records dating from the 1950's; rebar posts were installed to mark transects and photo points. The Daubenmire transects or step point transects were read faithfully every year, often on the same date (or nearly so) each year. I believe there were records of the transects and photo points in the Redding District, Siskiyou Resource Area, but that these records were lost in the transfer of administration from the Redding District to the Alturas Field Office.

Some monitoring records from transects read in the late 1970's to 1982 were retained in separate monitoring notebooks, in a separate file cabinet rather than in the actual grazing case files. For these, the protocols are vague, and photopoints, if established, were not well documented in many cases. However, photographs did indicate a general representational snapshot of vegetation on a particular date.

Current direction in the Alturas Field Office is to use an easily repeatable methodology based on the parameters of the interagency standard. Mark Lowrey, the Rangeland Management Specialist for this area, has adopted a 50-meter transect with photoplot. This method is consistent with guidance in the Interagency Technical Reference 1996, entitled "Utilization Studies and Residual Measurements, developed by the Cooperative Extension Service, U.S. Department of Agriculture, Forest Service and National Resource Conservation Service, as well as the USDI Bureau of Land Management.

Mark has located several transects which were established in the Mount Dome area in the 1970's or earlier, and has established new transects, including one to assess changes in native (relict) vegetation and one in a wheatgrass seeding. Above all, Mark stresses that a monitoring method must have consistency, repeatability, and simplicity. This last attribute is of critical importance, given BLM's staffing limitations and turnover in personnel in the next 5-10 years as our aging workforce retires.

Wildlife Browse Transects

Former Siskiyou Resource Area Manager, Jan Milller, and I remember numerous wildlife browse transects (for antelope and mule deer) in the Red Rock Lakes and Big Tablelands areas being read every year during the period of 1976-1981 by the BLM Wildlife Biologist at the time, Jeff Mattison. The fenceposts and rebar posts for these transects are still present in the Mount Dome area.

I could not locate any monitoring records for wildlife browse transect in the Alturas Field Office, nor could I find habitat management plans for pronghorn antelope in the Red Rock Lakes-Tablelands areas. It seems likely to Jan and me that the former Redding District Wildlife Biologist retained these files at his own desk, choosing not to file them in the Redding District central files; in any case, these files were not transferred to the Alturas Field Office.

Wildlife Guzzlers

Project files still exist; the guzzlers were installed in 1977 using special "drought funding." No photo points were established, although file photos show several guzzlers being installed. (See photos of guzzlers in 1977 and 2004, attached to this report.) Our team examined one guzzler which is located in T. 47 N., Range 2 E., Section 34: SE ¼ NW ¼.

There is little evidence of monitoring past about 1982, and no evidence of maintenance on project (see photos). Probably none of the guzzlers are functional today.

Wheatgrass Seedings

For projects such as numerous wheatgrass seedings done in the 1960's in the Red Rock Lake area, the Big Tablelands, and elsewhere, the focus tended to be narrower. The objective was to enhance range condition/wildlife habitat by eliminating brush and establishing a monoculture stand of wheatgrass. To establish these large wheatgrass seedings, rabbitbrush and sagebrush were dozed off, and several species of wheatgrass were seeded; repeat applications of 2,4D were used to maintain the "desirable" monoculture stand of several species of wheatgrass. Perimeter fences were constructed to protect the establishment of the wheatgrass stand. Amazingly, some of these fences are still fairly intact. As BLM hired local ranchers with grazing permits to construct these, the ranchers were certainly in a convenient location to observe maintenance needs and may have chosen to provide needed repairs because it was "the right thing to do."

The large wheatgrass seedings in the Red Rock Lakes area and on the Tablelands looked about the same—these areas remain pretty much a monoculture, with regimented-looking, evenly spaced rows of small wheatgrass bunches, typical of a drill seeding. Some plant diversity exists today, with occasional rabbitbrush, antelope bitterbrush, and junipers present in the seedings. Had the 2,4D treatments continued, there would be only wheatgrass present.

BLM range technicians conducted monitoring for several years, but again, there is little evidence of monitoring past 1982. No photopoints were established. There is no notation in the file of further mechanical or herbicide treatment past about 1978.

Red Rock Wild Horse Herd Management Plan
The Wild Horse Herd Management Plan identifies the Red Rock Lake herd management area as about 17,000 acres, including 12,475 acres of federal lands. Objectives are to maintain a minimum of 16 head and a maximum of 25 head of wild horses to maintain a healthy, viable herd with a variety of colors, and to achieve 100% adoptability of offspring in the Red Rock Herd. Range stocking rate was identified as the only management option.

The wild horse range area traverses eight grazing leases, contains no winter range, and very little available water.

A second herd 5 miles to the south, the Three Sisters Wild Horse Herd on Klamath NF land (mostly bays), may or may not interact with the Red Rock Lake herd. The herd management plan states, “No mixing of the herds occurs due to fencing and agricultural development.” However, some current resource specialists with BLM and with US Forest Service are questioning this statement.

BLM has performed census and gatherings as follows: In 1977, 30 head were counted. In 1983, 35 head were counted, and 16 head were gathered. In 1985, 22 head were counted. In the fall of 2003, 30 animals were counted and twelve hoses were gathered; All Red Rock Lake wild horses from the 2003 gather have been adopted as of August 24, 2004.

Grazing files and the wild horse file document several reported incidents of wild horses impacting private land; for example, in 1985, 17 head were wintering on private land for 4-6 weeks. There have been several reports of harassment of saddle horses and damage to alfalfa field irrigation systems by private land owners in the area. Although the public input for the Mount Dome Grazing EIS (1980) was initially favorable toward retaining the Red Rock Lake Wild Horse Herd, at least some of the public considers the nuisance factors to be a problem and may not want the herd retained, at least at current levels. (This may increase with additional small-acreage residences developing in the area.) There has also been evidence that BLM management of the wild horses was, for a time at least, reactive rather than proactive.

However, BLM’s records and management of the wild horse herd have been fairly steady compared to some of the other projects observed and discussed in the Mount Dome Planning Area, probably due to public demand and higher funding priority.

GENERAL CONCLUSIONS

I believe that BLM resource specialists in times past were no less dedicated to their work than the professional staff we have today.

Typically in the 1950's, the Daubenmire transects or step-point transects were read faithfully every year. For most of these projects, photo points were not established, or if they were, the records were lost, along with the early monitoring records (1950-1970's).

In the 1970's, BLM they read the transects and at least performed some field reconnaissance of projects such as the Red Rock Lake Wetland Project, the wildlife guzzlers, exclosures, seedings, and more formal monitoring of range condition and trend. The individuals performed monitoring to the standard of the time.

In the mid to late 1970's, BLM staffs across the West began to mushroom with "ologists," due to legal requirements for NEPA documentation and Land Use Planning (mandated by the Federal Land Policy and Management Act). Therefore, hosts of wildlife and fisheries biologists, hydrologists, soil scientists, outdoor recreation specialists, and archaeologists, sociologists, landscape architects, and a host of other resource specialists joined an agency which had been staffed mainly with range conservationists, foresters, and a few mining engineers or geologists. In the Redding District, Siskiyou Resource Area, the staff grew rapidly from three to about five or six, and the District staff from about fifteen to thirty. Duties and priorities changed rapidly during this period.

In 1982, the reorganization of BLM Northern California resulted in the Redding District discontinued and staff dispersed, and the Mount Dome Planning Unit was transferred to the Alturas Field Office. Thus a different staff acquired an additional responsibility, including lands and resources with which they were not familiar. As these were not the ones who constructed project, so perhaps a lack of ownership and background knowledge. In addition, it must be pointed out that staff has continued to be stretched thinner across the acres due to multi-resource team efforts and diminishing staff and resources.

Over time, different monitoring strategies were developed and used by range conservationists. However, funding limitations, personnel and staffing changes, management direction on priorities, and transfer of administration from one unit to another have all been contributing factors to the lack of commitment to monitoring over the long term.

In the case of the Alturas Field Office, the new Resource Management Plan may afford a chance to reexamine what we as an agency may want to do differently in future management of our public lands.

A few points to consider/opportunities for future decision making (perhaps within the RMP process) are:

- Most grazing permittees in the area of Red Rock Lakes/ Big and Little Tablelands have been taking non-use and resting their allotments, due to juniper encroachment and overuse of the range by wild horses. It appears that a current assessment of range resources would reveal what the carrying capacity of this range resource is, and whether sufficient vegetation exists to meet the needs of livestock, wildlife, and wild horses. Perhaps reevaluation of the allocation of range resources is in order.

- Since several of the permittees have not turned their stock out on the BLM lands in a number of years, it is likely that the wild horse herd is a primary factor behind the decrease in native bunchgrass and increase in annual invaders. Is this true? Should the wild horse herd be retained?

- Some regular monitoring, even once in every two years, would help to assess wildlife and wild horse herd use of the lake and its surrounding area. Is wild horse herd grazing pressure adjusted into stocking rates? Can allotments be combined (such as West Mahogany Mountain and North Red Rock Lake) to simplify fencing and water requirements?

- There were some guzzlers and wildlife drinkers on the Big and Little Tablelands, Coyote Ridge, Sheep Mountain, Mount Dome, and Box Canyon. The one we observed was not longer functional. Might it make sense to re-develop these?

- Can follow through with the Alturas Field Office Land Tenure Adjustment Plan provide better access and more manageable land ownership patterns for the public land?

- Would it be worthwhile to acquire one or two key legal access routes into the Mount Dome Planning Area to facilitate management and monitoring?

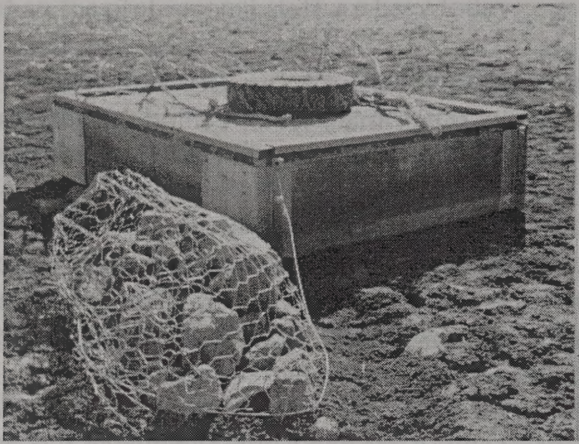
- What opportunities exist for local groups/volunteers to adopt the maintenance or monitoring of a project in the Mount Dome Planning Area?

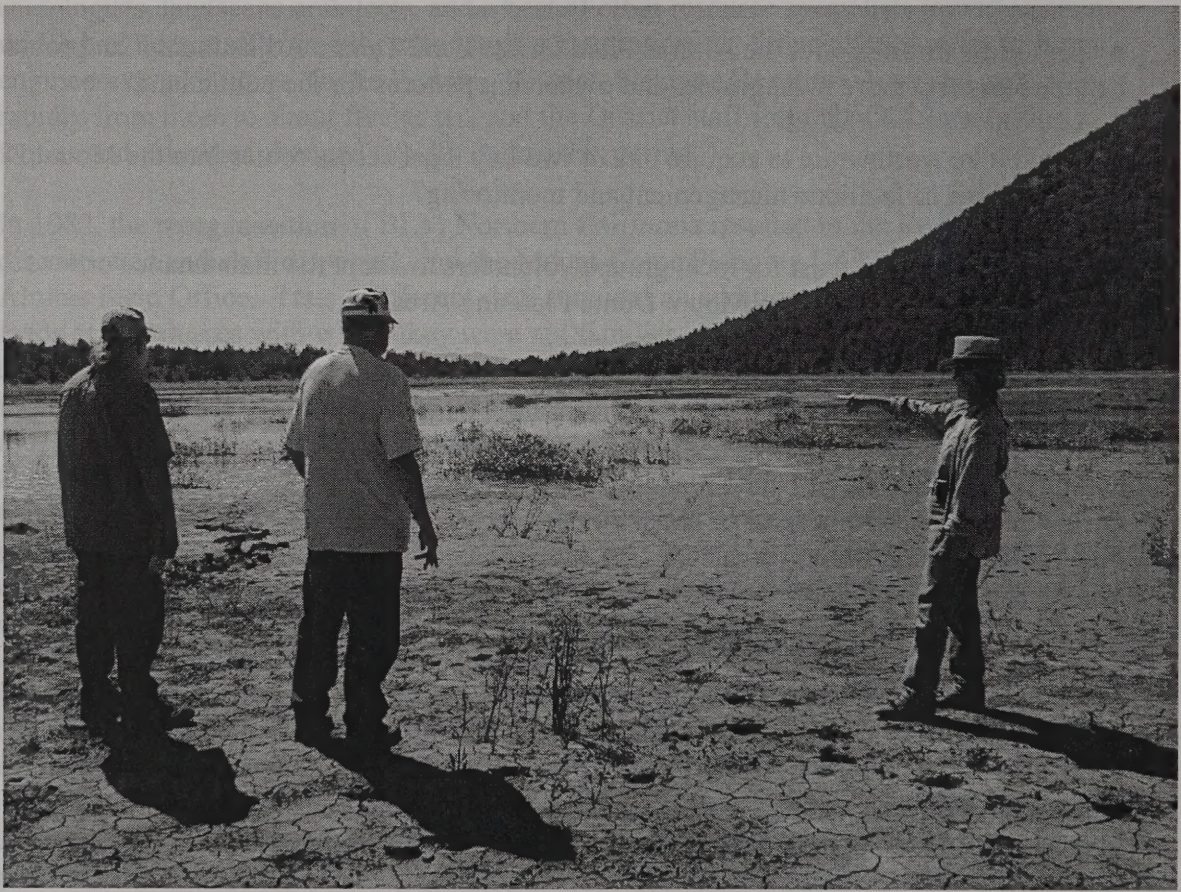
- Limitations in funding and staffing mean that typically, areas which are closer in proximity to the field office get more attention and resources, particularly if they are legally accessible. For this reason, one alternative that could be considered is for field administration and compliance of the Mount Dome Planning Area to transfer to the BLM Klamath Falls Field Office in Oregon, with a drive of about 2 hours drive to the site in 2004. Of course, an obvious "downside" to this is that current Alturas Field Office staff are somewhat familiar and clearly motivated to follow through with the best stewardship possible.

THANKS…

To Bruce Van Haveren and the BLM Legacy Program for making it possible to revisit these lands and become acquainted with the dedicated professionals of the Alturas Field Office who care for these public lands.

To Mark Lowrey, Marti Butow and numerous other Alturas Field Office staff members—and to Tim Burke, Alturas Field Manager. These kind people facilitated my stay and my research in Alturas and the field visit to the Mount Dome Planning Area. They made me feel welcome and allowed me to interrupt their busy schedules. I was tremendously impressed at the conscientious work ethic and the mutual respect I observed among Tim and his staff!





Back on the Job After 52 Years--Report of a Legacy Visit to Las Cruces

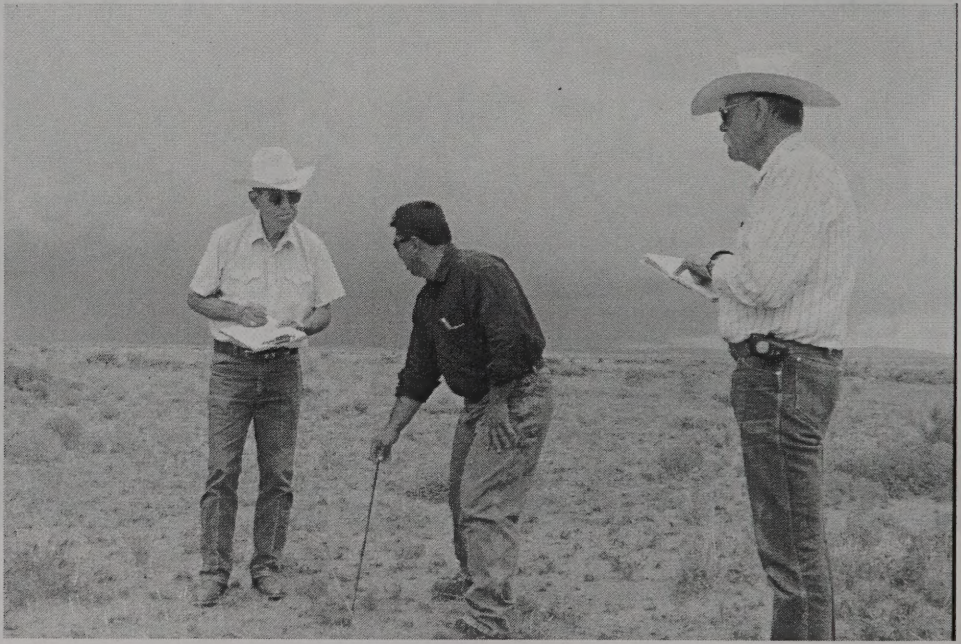
Buster Riley

Last week I spent three days with Bruce Van Haveren and the BLM Legacy Team visiting Parker Three-Step Transects in NM District Three. Yes, that is right--District. State Director Linda Rundell announced recently that the Las Cruces Field Office would be known as the Las Cruces District Office.

We visited and recorded 2004 data on NM District 3 Cluster No. 1, Transect No. 1, established by myself, Morria A. Trogstad, and Virgil A. Pate in May, 1952. I believe this was the first Parker Three-Step Transect set out in New Mexico and possibly the first in the Bureau. I will give you the exact date the transect was set out if you want to run a little contest in the Monitor to determine when other Districts established their Cluster No. 1.

We also visited a transect on the Brownfield Allotment. A. D. Brownfield was chairman of the Local, State, and National Advisory Boards from their inception in 1934 until he declined the nominations, about 1966, after thirty plus years, and turned the National gavel over to Judge Dan Hughes of Montrose, Colorado, while I was District Manager at Montrose. Judge Hughes was also one of the original members of the National Grazing Service and Bureau of Land Management Advisory Board.

The Las Cruces District is maintaining the records and continues to monitor the transects periodically. Joe Navarro (middle in photo), one of the Legacy Team members and a Roswell District employee, wrote his Masters Thesis at NMSU based on data in these transect files. The fourth Legacy team member was Dr. Dee Galt (left in photo), a retired SCS employee and BLM Volunteer. All Las Cruces District Managers and their Range Staff should be commended for this record.



Appendix C – Organizing a Legacy Field Visit

Any BLM field office, senior employee, or retiree may get involved in the Legacy Program. A call for expressions of interest is sent out annually as an Information Bulletin from the Washington Office to all field offices. The Information Bulletin contains separate application forms for individuals (senior employees), field offices, and retirees. The Public Lands Foundation announces the Legacy Program to its members, many of whom are BLM retirees, through a newsletter and e-mail announcements.

We encourage field office managers to apply to the program. We will help you find retirees and senior employees interested in returning to your field office for a Legacy visit. We have learned over the past three years that the more successful Legacy visits are those in which retirees or senior employees contact field offices and jointly propose and plan the field tours. The Legacy Program covers travel costs for senior employees and retiree-volunteers.

A typical Legacy visit involves a brief kick-off meeting in the field office. Many field office managers have integrated Legacy visits into all-employee meetings. At the meeting, the goals of the Legacy Program are discussed and objectives and schedule for the field trip(s) are determined. The field trip may last one to two days. Many field offices have invited permittees, state office managers and program leaders, and representatives of other agencies to participate in the Legacy visit. The Legacy visit is concluded with a close-out meeting with the field office manager. The Legacy volunteers are each responsible for completing a written report of their observations, conclusions, and recommendations.

The Legacy visit connects current field office employees with people who worked there 25+ years ago. The visit is not an evaluation! It is a unique opportunity to capture the knowledge of senior employees and retirees.

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